ISO Specification Liferafts - What You Need to Know

In this article, we outline the development of leisure liferaft specifications in the UK over the last 30 years and we look at what the new ISO 9650 liferaft specification means for leisure vessel owners and operators.

Who regulates liferaft design?

Over the last 30 years, liferafts for leisure vessels have significantly reduced in price and as a result, many owners now carry one on board as a matter of course.

Unlike commercial liferafts which must comply with strict international regulations, leisure liferafts designed for pleasure craft and racing yachts have never been subject to formal regulation in the UK and as such have evolved in a haphazard way.

How liferaft specifications have developed

The first major steps in the development of leisure liferafts came after the tragic 1979 Fastnet disaster, with many manufacturers taking onboard the findings of the official enquiries, and improving their liferaft designs accordingly.

The offshore racing sector has led the way in leisure liferaft design. The first significant improvements in design were recognised in the requirements that developed into the ORC (Offshore Racing Council) Offshore Special Regulations.

These regulations set out specific requirements and specifications for the safety equipment onboard a racing yacht, which included the design of the liferaft.

In the UK, the RORC (Royal Ocean Racing Club) has been the principle organising body for offshore racing for over 80 years. It naturally adopted the ORC Offshore Special Regulations into its

prescriptions and regulations for all yachts competing in its offshore races.

As a result one of the first commonly-used terms to describe the type or specification of a leisure liferaft in the UK was the 'ORC' or 'RORC' specification liferaft.

Why did this Need to Change?

Although these initiatives were a significant improvement and gave the boat owner sensible guidance about what to look for when choosing a liferaft, the problem has always been that both the ORC and the RORC are clubs, and they have had no means of testing the various models of liferaft that have come onto the market claiming to meet their requirements, and have no legally enforcable powers with which to regulate this area.

This gulf between the establishment of a set of specifications and the lack of a recognised and independent testing and certification procedure to enforce the requirements has always worried many safety professionals.

Substandard Equipment and Poor Construction

From the mid 1990s, liferaft service stations around the UK started to see more and more budget liferafts imported from European and far eastern manufacturers being submitted for servicing with specifications that claimed to be 'Offshore' or to comply with ORC or RORC requirements.

In many circumstances, the standard of the equipment and the quality of the construction left serious concerns about the integrity of the liferafts, but with no legally enforceable framework being broken, manufacturers and the "Discount Chandleries" selling these liferafts have been at liberty to sell their liferafts and claim they are designed for offshore use or that they meet ORC or RORC specifications with relative impunity.

To compound the problem, many European countries do in fact have legally-enforceable regulations that require a leisure vessel to carry a certain specification liferaft, depending on the distance

from shore that the vessel is operating.

Some of these regulations would meet the requirements of the ORC Appendix-A Part-1 liferaft specification, but in other circumstances they would not. Normally these liferafts have been designated under their local country specification, often leaving boat owners confused about which model of liferaft they really need.

The Role of the International Sailing Federation

It took another sailing disaster, the 1998 Sydney Hobart Race, to focus the sport's attention and during 1999, the ORC Special Regulations Committee established a working party to study liferaft specifications taking into account experiences from the Fastnet in 1979, the Hobart in 1998 and other sources.

In 2002 the International Sailing Federation (ISAF), the worldwide governing body for sailing and yacht racing, published its new liferaft specification under the ISAF Offshore Special Regulations which ISAF had assumed responsibility for developing from the ORC.

This new liferaft specification was published under ISAF OSR Appendix-A Part-2, and quickly came to be known as the ISAF liferaft specification.

The development of the ISAF liferaft specification took into account the latest in design features, construction materials and equipment provisioning, however it was always intended to be an interim specification while an internationally-recognised leisure liferaft specification was developed.

The development of an internationally recognised liferaft specification could only ever be accomplished through the International Standards Organisation (ISO).

Finally - The ISO 9650 Liferaft Specification

The specification that was finally developed resulted in the **ISO 9650 liferaft specification** published in 2005 and it matched many of the features and design specifications of the earlier ISAF liferaft specification.

In addition, the ISO 9650 liferaft specification set out particular operational performance requirements and most importantly, testing requirements that must be completed for each model of liferaft.

Part-3 of the ISO 9650 liferaft specification then goes on to give materials requirements and test procedures for all materials used in the construction of a liferaft.

The ISO 9650 liferaft specification was designed to bring the liferaft regulations of all the countries in the EU into line with a single standard and relieve the confusion that had previously existed.

The ISO 9650 liferaft specification outlines two different models of liferaft suitable for different operating environments.

ISO 9650 Type-1 Liferaft

The ISO 9650 Type-1 Liferaft is designed for open ocean navigation and adapted for the risks associated with long voyages including high seas and heavy winds. Its specification defines two sub-groups of Type-1 liferaft according to the expected air-temperature conditions:

- Group-A liferafts are designed to inflate correctly in air temperatures between -15 °C and + 65 °C
- Group-B liferafts are designed to inflate correctly in an air temperatures between 0°C and + 65 °C.

The ISO 9650 Type-1 Liferaft can be supplied with two different equipment packs depending on the duration that a survivor might expect to be in the liferaft.

- The standard pack supplied is the Less than 24hrs Equipment Pack
- The other optional pack is the More than 24hrs Equipment Pack, which has a little more equipment plus food and water rations.

ISO 9650 Type-2 Liferaft

This model is designed for coastal and inshore waters navigation and adapted for the risks associated with more sheltered waters

where moderate conditions may be met, in areas such as (but not limited to) coastal waters, large bays, estuaries, lakes and rivers.

ISO 9650 Type-2 liferafts are designed to inflate correctly in an air temperature between 0°C and + 65 °C and should have the same **Less than 24hrs Equipment Pack** as the Type-1 model liferaft.

Which liferaft is most suitable?

We can clearly see from the two descriptions outlined in the ISO 9650 liferaft specification that the Type-1 liferaft is designed for Northern European and open ocean environments where the waters are potentially much colder, and the Type-2 liferaft is designed for Mediterranean and inshore waters where temperatures are warmer and rescue is closer to hand.

In real terms only the ISO 9650 Type-1 Group-A liferaft is suitable for use in UK waters and as a result this is the only model that dealers in the UK generally offer.

Typically, dealers will supply the ISO 9650 Type-1 Group-A liferaft with the standard **Less than 24hrs Equipment Pack**, however should you feel that you need the **More than 24hrs Equipment Pack** because you a cruising further afield or if you are offshore racing, then the additional equipment is usually supplied in a Grab Bag.

Because the ISO 9650 Type-1 Group-A specification liferaft is now widely available, ISAF is following its previously established policy to promote the ISO 9650 liferaft standard as its primary preference for use under ISAF OSR Appendix-A Part-2.

It is the intention of ISAF that the ISAF specification liferaft will continue to be an acceptable alternative for use on racing yachts, although many manufacturers may choose to no longer market products under the ISAF name but under the ISO 9650 Type-1 Group-A designation instead.

Ref: www.safety-marine.co.uk